Water Resources - The Strategic View

Presentation to
Planning Community of Practice
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Water Resources – the Situation

- Nation faces large and growing water resources challenges
  - Population pressures
  - Changes in national priorities and values
- Availability of water will be significant factor in U.S. economic prosperity and quality of life.

Challenge: Competing Water Uses

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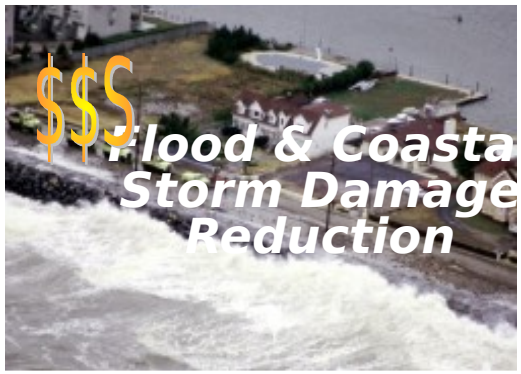

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Challenge: Aging Water Resources Infrastructure

- Half of locks 50+ years old
- Investments in water resources infrastructure declining in real terms
- Result: more frequent closures for repairs, decreased performance & costly delays

Crumbling lock wall, Lower Mon 3, opened in 1907

Leaking spare miter gates, Upper Miss Lock 19

Concrete deterioration at Chickamauga could result in lock failure

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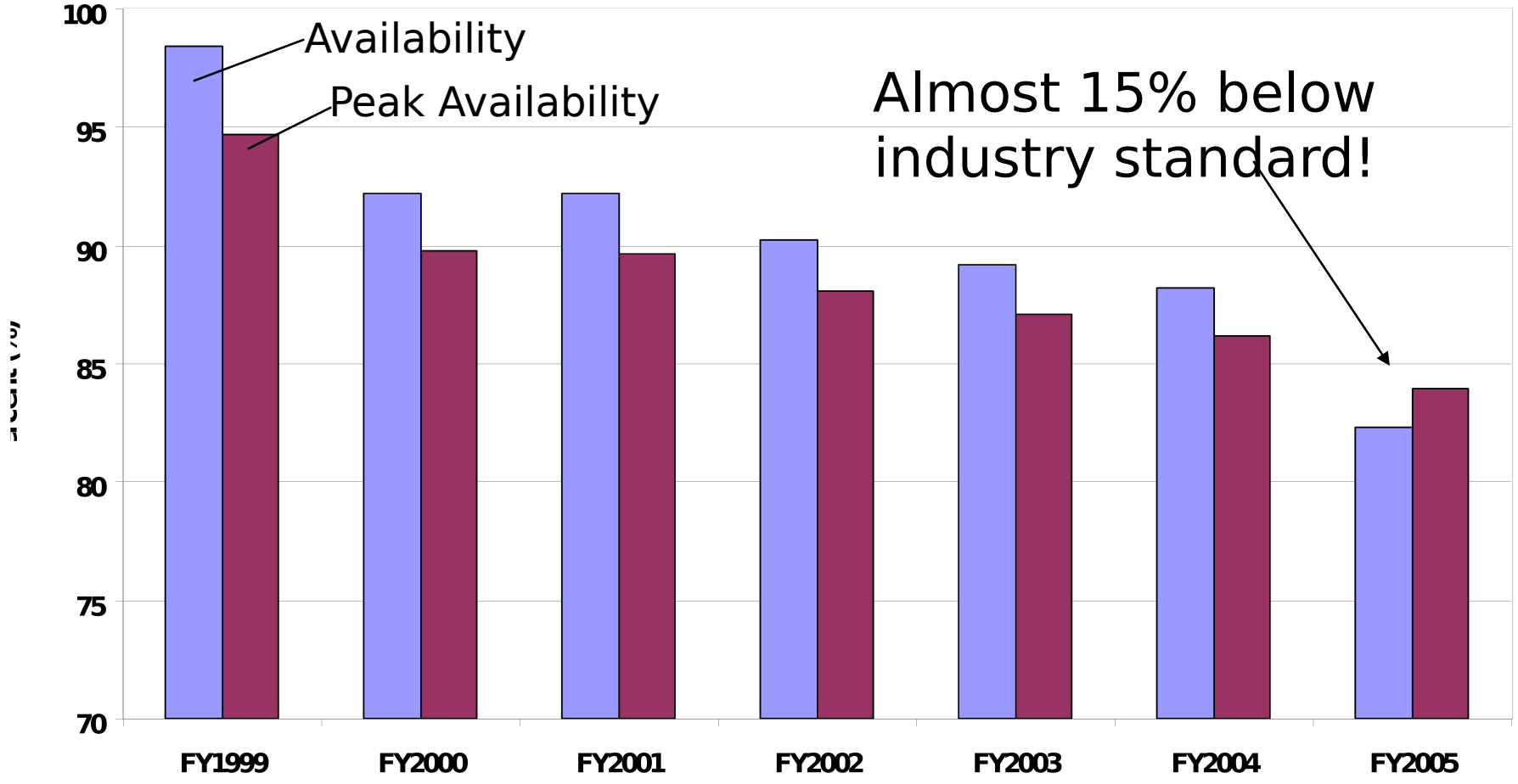
Hydropower Business Program Availability & Peak Availability



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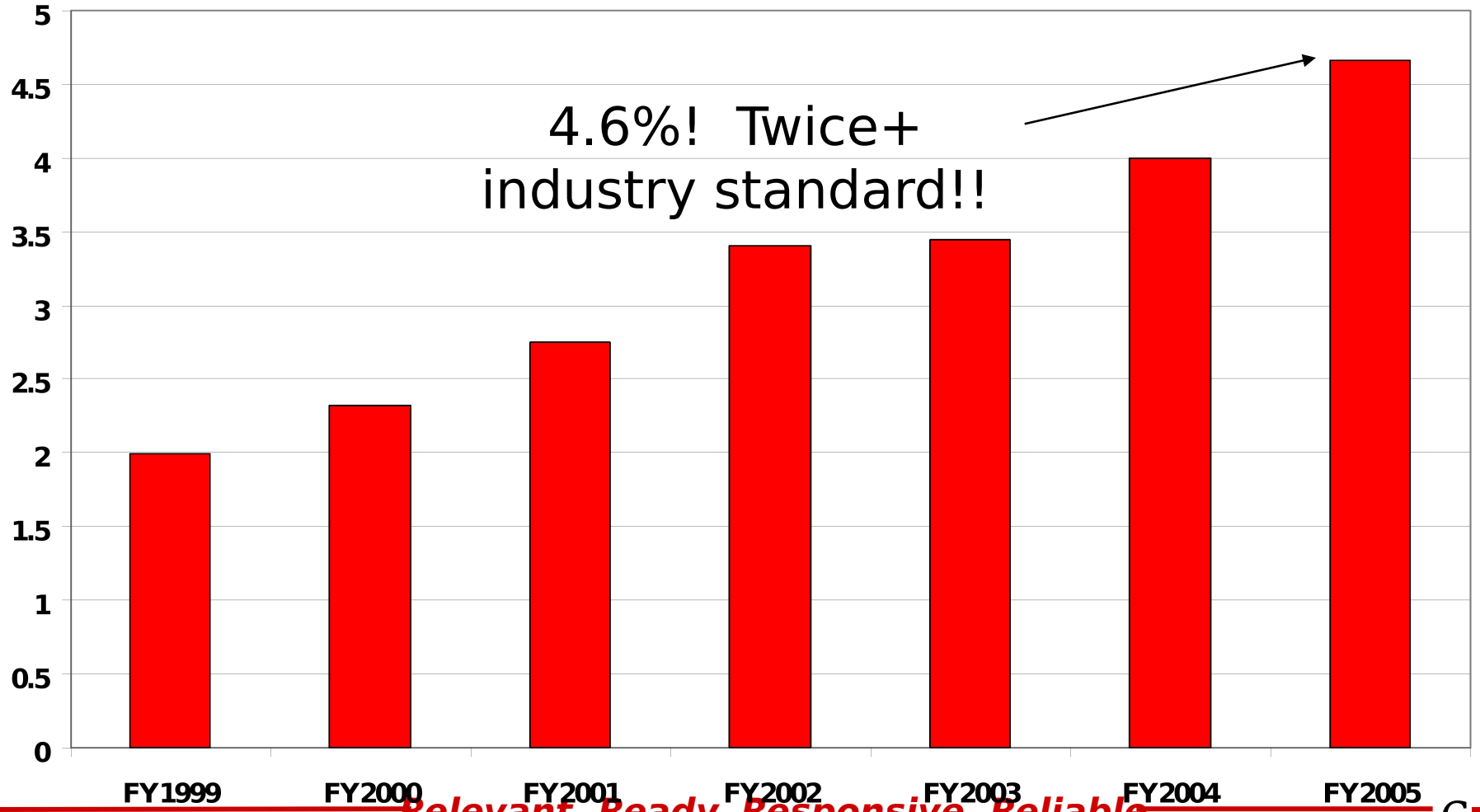
Hydropower Business Program
Forced Outage Rate (%)



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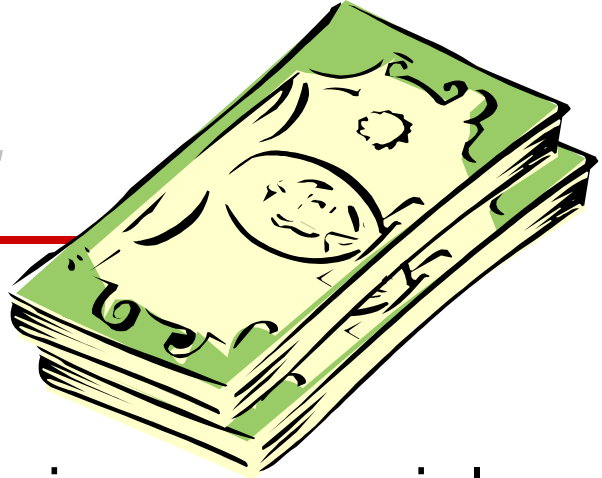
FY 2007 Budget



Emphasizes 3 critical activities:

- Construction/completion of projects in commercial navigation, flood/storm damage reduction, and aquatic ecosystem restoration
- Regulatory program
- Emergency preparedness and response mission

Corps' focus:

- Maintenance of critical infrastructure
- Funding high return studies and construction projects
- Continuing best ongoing planning and construction within available funds

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Civil Works Budget & Appropriations ($ Millions)***

	FY05 Budget	FY05 Total Approp.*	FY06 Budget	FY06 Total Approp. **	FY07 Budget
Construction, Gen.	1,437	1,796	1,637	2,348	1,555
Oper. & Maint., Gen.	1,934	1,959	1,979	1,969	2,258
Gen. Investigations	90	145	95	162	94
Mississippi R. & Tribs.	270	325	270	396	278
Regulatory	150	145	160	158	173
Flood & Coast Emerg.	50	0	70	0	81
FUSRAP	140	165	140	139	130
Gen. Expenses	167	167	162	152	164
OASA(CW)	0	4	0	4	0
Total	4,238	4,705	4,513	5,329	4,733

* **Does not include $4.3 billion in two Emergency Supplementals for 4 storms**

** **Administration has requested additional $1.5 billion in Emergency Supplemental to strengthen New Orleans Levees**

*** **Plus $4.4 billion (FY05 & 06) from FEMA for hurricane recovery work.**

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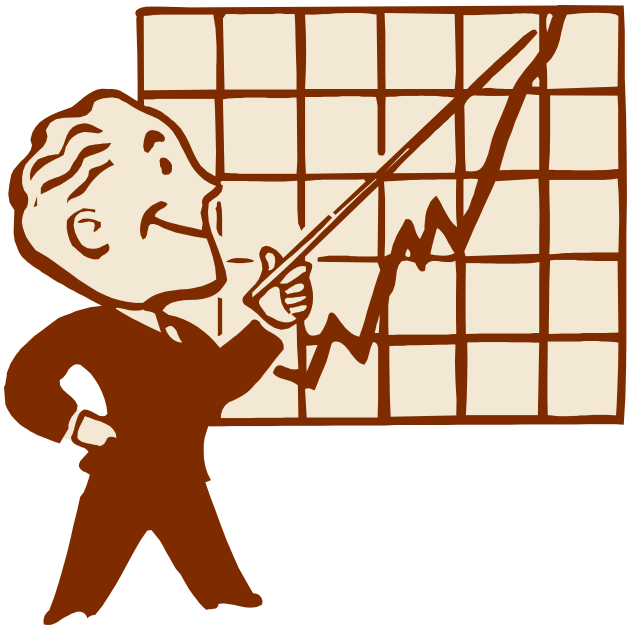
Performance Based Budgeting – Which Projects Make the Cut?

Performance Measures & Ranking Criteria

- Benefit/Cost Ratio, Remaining Benefit/Remaining Cost Ratio
- Time to Complete
- Dam Safety
- Flood Damage Reduction
  - People in 100-year flood plain
  - Average annual damages prevented
  - Property at risk in 100-year floodplain
- Navigation
  - Tonnage
  - Average Annual Benefits
- Environmental Restoration
  - Loss prevention for significant natural resources
  - Endangered Species Act & other environmental compliance needs



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Five-Year Development Plan

- Based on President's budget & guidan
- Presents 5-year plan for FY 2006-10
- Purpose - present informed discussion and decision making on program funding
- Presents how watershed-integrated management will be pursued.
- Performance based - discusses how funding over 5-year period will achieve goals in Civil Works Strategic Plan.

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Lean Six Sigma

- Corpswide business transformation initiative
- Tool to pursue expertise and organizational structure required to succeed
- Enhanced work environment, job satisfaction, productivity, efficiency and streamlined processes
- Only 4-6 processes examined a year (due to funding constraints). In FY06:
  - Project Cooperation Agreements
  - Regulatory Permits
  - Pre-Authorization Documents

WRDA '02 '03 '04 '05 '06

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- Civil Works projects usually authorized in Water Resources Development Acts (WRDAs)
- No WRDA passed by Congress since 2000
- House passed WRDA 2005, Jul 14 (vote of 406-14)
- Senate version passed Energy and Public Works Committee
  - Hopeful for floor action, conference this year
- Provisions that support improvements to processes:
  - Peer review
  - Planning improvements
  - Mitigation
  - Technical assistance to States

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Where We're Going

- Watershed-based approach
- Multi-party collaborations among partners
- Emphasis on watershed objectives with budget priority for comprehensive planning
- Sustainable integration of constructed and natural systems
- Coordinated & standardized data collection and archiving
- Optimized learning/information sharing
- Effective leveraging of partners' resources
- Asset Management
- Alliances with State Water managers

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Alliances with State Water Managers

- Recognize State primacy for water rights
- Become primary Federal support for State-wide water planning
- Provide technical assistance, data, watershed analysis
- Bring cooperative solutions to water conflicts that avoid litigation or heavy-handed regulation

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Our Stakeholders Want Us to

Adopt an External Focus

- Listen to other viewpoints
- Follow through on commitments
- Quickly and effectively confront misinformation
- Be quick to admit mistakes
- Develop transparent business processes
- Accept risks and criticism associated with public position

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Watershed Approach

- New roles – not necessarily projects
  facilitator
  convenor
  integrator
- Systems view
- Watershed or basin scale of analysis
- Balanced objectives
- Innovative solutions, structural/nonstructural
- Focus on results

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Collaborative Planning
EC 1105-2-409, 31 May 05

- Planning studies (recon through feasibility) completed in three years
- Watershed plans - Components to be implemented by Corps and other agencies

Plan Selection:

- Compare full range of alternatives across all four *Principles and Guidelines* accounts.
- Plan may be candidate if, on balance, net beneficial effects.
- May select any one of candidate plans
- Must identify National Economic Development (NED) plan for comparison

Adaptive Management:

- Take into account uncertainties about performance that exist when decisions made to undertake project

USACE Campaign Plan Goal #2:
Develop Sound Water Resource Solutions

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- Focus talents and energy of the Corps of Engineers on comprehensive, sustainable and integrated solutions to the Nation's water resources and related challenges through collaboration with stakeholders (regions, States, local entities, other Federal Entities, etc.) playing a leadership or support role as appropriate.

Bounding The Future

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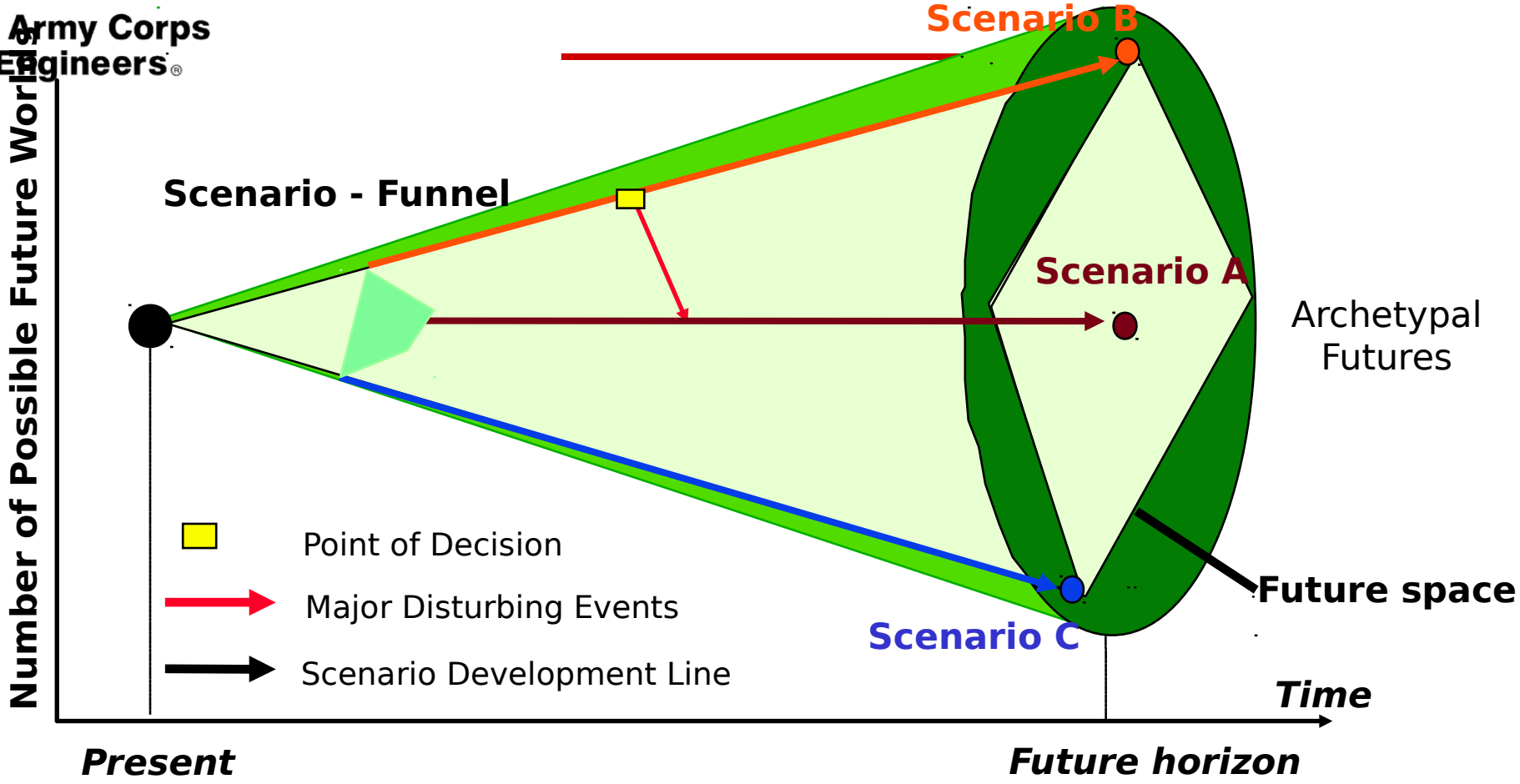

Scenarios combine existing trends and key uncertainties into a few future worlds that are internally consistent and within the realm of the possible. Scenarios do not cover all eventualities, but discover the boundary zone of the future outcomes and expand management's thinking horizon.

Key Uncertainties and Their Boundaries

U1	**What is the socio-political context during disasters and catastrophic events by the year 2035?**	1A	Harmonious and Unified
		1B	Fibrillating and Chaotic
U2	**What are the roles and responsibilities for water resources management by the year 2035?**	2A	Privatized and Regulated Environment
		2B	Strong Public Sector Involvement
U3	**By the year 2035, will the public sector provide sufficient funding for water resources infrastructure?**	3A	Sufficient Funding For Water Resources
		3B	Insufficient Funding For Water Resources
U4	**Is water infrastructure adequate to satisfy multiple social demands in 2035?**	4A	Infrastructure Fully Satisfies Social Demands
		4B	Infrastructure Inadequate for Demands
U5	**How will US energy needs be met by the year 2035?**	5A	Alternative sources and new technologies satisfy greatest proportion of energy needs
		5B	Fossil fuels continue to satisfy greatest proportion of energy needs
U6	**How will international markets and economic agendas affect US water resources management?**	6A	Globalization, Interdependence and Cooperation
		6B	Isolationism, Autonomy and Protectionism
U7	**What will be the impact of environmental values on land and water resources policies and management by the year 2035?**	7A	Environmental values are major influence on water policies and projects
		7B	Environmental values are incidental or unimportant in key decisions regarding land/water res. mgmt
U8	**How will new technologies and engineering practices affect water resources management (including planning) by the year 2035?**	8A	Revolutionary changes in technologies & engineering practices
		8B	Incremental changes in technologies & engineering practices
U9	**What is the vulnerability of water resources infrastructure by the year 2035?**	9A	Minimized vulnerability of water resources infrastructure
		9B	Significant vulnerability of water resources infrastructure
U10	**What will be the pace and effect of climate change on U.S. environment and population by the year 2035?**	10A	Gradual and Minimal Effect of Climate Change
		10B	Abrupt and Dramatic Effect of Climate Change
U11	**To what extent will available water satisfy multiple social demands by the year 2035?**	11A	Available Water Fully Satisfies Social Demands
		11B	Available Water Is Inadequate For Demands

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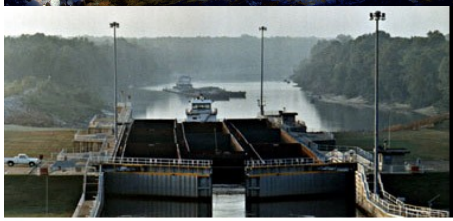
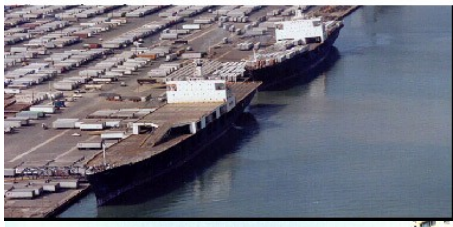
Desired End State

- Water collaboratively managed
- Systems principles balance economic and environmental objectives
- Federal purposes met:
  - World's best navigation system
  - Economic losses and human suffering from flooding reduced
  - Environment protected and restored
- State and local governments manage resources in harmony with, and supported by, Federal government





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Communicate!

- Infrastructure funding is an investment – returns exceed costs
- Infrastructure is important
  - To National Defense
  - To Economy
  - To Quality of Life
- Infrastructure is integrated

Questions?

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What Can We Offer Our Partners?

- Engineering, scientific and environmental expertise to assist with local projects.
- Watershed/systems planning
- Coordination of sustainable development on regional scale
- Avoidance of duplication and conflicting projects

Guiding Principles:

- State & local governments have primary jurisdiction over water resources.
- Our goal is to support State & local leaders in meeting their challenges.
- We want to develop partnerships in planning, managing and integrating
- We can offer expertise with balancing conflicting requirements.

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Our Stakeholders Want Us to
Maintain Unquestioned Technical Excellence

- Perception that we haven't invested as much in that area as we should have
- Regain and retain highly qualified staff and technological leadership in relevant fields

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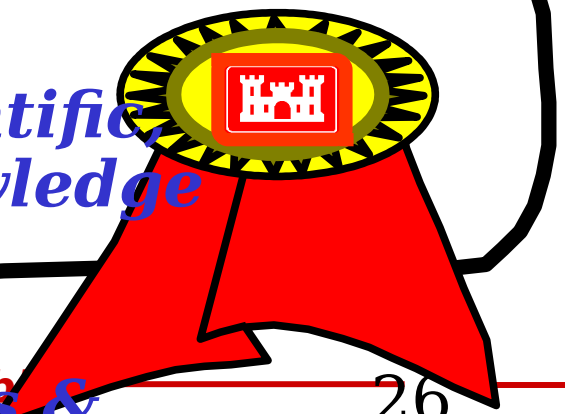
Environmental Operating Principles

1. Environmental Sustainability.
2. Interdependence of life and physical environment.
3. Balance and synergy among human development and natural systems
4. Corporate responsibility and accountability
5. Assessment & mitigation of cumulative impacts
6. Shared integrated scientific, economic & social knowledge base
7. Respect for views of interested individuals &



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Goal 2: New Initiatives

- Modify decision document review process to support holistic watershed approach
- Investigate broad authority for water supply technical assistance
- Lean 6Σ for planning, engineering processes
- Strengthen planning functions to maintain capabilities
- Develop National Technical Experts Program
- Collect and disseminate best practices

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Performance Based Budgeting – Modifications for FY07

- Adding key metrics to Remaining Benefit to Remaining Cost Ratio
  - Risk to human life if no action taken
  - Restoration of significant ecosystems
  - Remedying impacts from existing Civil Works projects
  - Corps unique expertise in modifying aquatic regimes of watersheds